A and B if indicated, and evaluation for treatment and screening for hepatocellular carcinoma. Alpha interferon (α-IFN) therapy results in virological response in 40% to 50% of patients treated for 12 weeks, and responders should be maintained on treatment for at least one year. The current goal of therapy is sustained virological response (defined as non-detectability of HCV RNA by PCR for at least 6 months after treatment is discontinued) which is associated with marked improvement in hepatic histology and may indicate viral eradication. Recent trials of ribavirin added to α-IFN have demonstrated significantly higher on-treatment and sustained virological response rates compared to α-IFN monotherapy. However, patients must be carefully selected for treatment with these agents, because of potential side effects, and because therapy has not demonstrated effectiveness in patients with normal ALT levels. Prior to treatment, liver biopsy should be performed for staging of the disease.

Patients with decompensated liver disease are not candidates for therapy and should be referred early for liver transplantation evaluation. Although guidelines for screening for hepatocellular carcinoma have not been established, hepatic ultrasound and serum alpha-fetoprotein tests should be done during baseline evaluation of all patients, and follow-up testing performed, particularly in patients with cirrhosis.

Hepatitis C is an important viral infection with serious disease implications. Over the past decade, significant strides have been made in the field of hepatitis C with identification of the virus, development of effective therapies and definition of the epidemiology of the infection. Further research on the pathogenesis and treatment of hepatitis C is clearly necessary.

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Indoor Environmental Quality

INDOOR ENVIRONMENTAL QUALITY is a relatively new concept that includes the older concerns for indoor air quality, building-related illness and "sick building syndrome," but expands this to include ergonomic issues (lighting, noise, furniture) and psychological issues (decision latitude, stressful working conditions, and job satisfaction). Major recent advances in indoor environmental quality have occurred in several areas, including recognition of the significance of workplace passive smoking, new methods of measurement of airborne microorganisms along with greater recognition of their importance as risk factors for disease, and new application of more sensitive epidemiologic methods to building investigations.

Perhaps the greatest recent improvements in indoor environmental quality are the result of widespread recognition of the harmful effects of workplace passive smoking. A recent meta-analysis found an odds ratio or relative risk of development of lung cancer among nonsmokers exposed to environmental tobacco smoke at work to be 1.39 (95% confidence interval 1.15–1.68). This latest meta-analysis refuted five error-studded industry-sponsored meta-analyses published in 1994 that found no relationship between lung cancer and environmental tobacco smoke in the workplace. Clinically, inquiry into environmental history should include not simply whether a patient is a current or former smoker, but also whether the patient has been significantly exposed to environmental tabacco smoke.

Disease-causing mold and other airborne microorganisms as risk factors for illness among both adults and children are another focus of efforts to improve indoor environmental quality. Several recent cases have demonstrated the adverse impact such organisms may have on building occupants. Courthouse workers in Florida complained of mucous membrane irritation, fatigue, headache and chest tightness in association with roof and window leaks and building contamination with *Stachybotrys chartarum* and *Aspergillus versicolor.* In a well-publicized outbreak, a geographic cluster of 10 cases of pulmonary hemorrhage and hemosiderosis occurred among infants living in homes in Cleveland, Ohio with toxigenic *Stachybotrys atra* and other fungi in the indoor air. In addition, several cases of suspected hypersensitivity pneumonitis have been diagnosed in health spa workers where *Mycobacterium avium* was subsequently cultured from the environment.

New methods of measurement of airborne microorganisms, along with the application of more sensitive epidemiological methods to building investigations, now make it possible to more efficiently identify organisms responsible for deleterious health effects. The application of DNA polymerase chain reaction (PCR) coupled to an enzymatically generated color reaction allows direct detection of airborne *M. bovis* Baccillus of Calmette-Guerin (BCG), a surrogate for pathogenic *M. tuberculosis.* Analysis can be completed in less than 1.5 days, in contrast to traditional culture methods requiring a minimum of 2–3 weeks. The *M. bovis* test is currently in use by researchers. It may lead to the development of a specific test for *M. tuberculosis* in the future, using similar technology.

A cluster of building-related illnesses was found among safety personnel working in a medium sized government office building localized to a basement with history of sewage overflows. The outbreak was confirmed by two measures of spatial clustering: The number of ill workers working in adjacent offices and

the mean distance from a geographic center of the cases. This method was found to be a sensitive way to identify a subset of workers in a distinct location within a building at increased risk, despite the building having overall a relatively reduced frequency of symptoms compared with usual rates in non-problem buildings.

These cases illustrate the increasing concern and awareness of the effects of the indoor environment on health.

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Update on Public Health in Correctional Facilities

Public health interventions in correctional facilities are insufficient. For example, 33% of state and federal prisons conduct mandatory screening for human immunodeficiency virus (HIV) but only 59% provide voluntary testing upon inmate request, although the prevalence of HIV infection in state and federal prisons is 1% to 20%. A recent serosurvey of incoming inmates at six California reception centers demonstrated an HIV prevalence rate of 2.5%. In addition to the lack of data about prevalence, there are no data that identify how many HIV infected persons in prisons or jails receive appropriate anti-retroviral therapy. Inmates coming into prison do seem to be aware of the potential for HIV acquisition. Although incoming inmates may understand that sharing needles and sexual intercourse could result in transmission of HIV, once in prisons, educational programs and prevention efforts are often lacking.

Coinciding with the advent of the HIV epidemic, rates of tuberculosis (TB) rose dramatically. In 1994, 4.6% of reported new tuberculosis cases were diagnosed in residents of correctional facilities. Despite this, some correctional facilities still do not follow current Centers for Disease Control and Prevention guidelines regarding TB screening. For correctional facilities that provide some form of TB control, there are no published data on the effectiveness of these programs.

Universal screening programs in jails for syphilis, gonorrhea and chlamydia have proved effective in diagnosing and treating large numbers of individuals for these sexually transmitted diseases. Universal screening of inmates for syphilis and gonorrhea at one midwest county jail demonstrated syphilis rates of 2.7% for males and 10.4% for females, and gonorrhea rates of 1.5% for males and 4.3% for females. Linkage to local health departments facilitates treatment of these individuals. Despite the opportunity for screening and treating sexually transmitted diseases in jails, this practice is not routinely practiced elsewhere.

Rates of hepatitis B infection in the incarcerated population range from 19% to 44%, a rate consistent with high prevalence of risk factors associated with hepatitis B infection. Despite these data, the author is aware of only two state prison systems that routinely screen and vaccinate all incoming inmates against hepatitis B infection.

Since hepatitis C testing became available, significant numbers of incarcerated persons have been identified with hepatitis C infection. A recent seroprevalence study at 6 California prison intake reception centers revealed that 41% of 5144 individuals screened were positive for hepatitis C antibodies. Unfortunately, interventions are not universally endorsed and are notably expensive.

The prevalence of smoking among incarcerated individuals may exceed 80%, yet by 1997 only 13 states were either smoke free or transitioning to a smoke-free environment. Despite civilian laws in many states that mandate smoke-free environments for workers and occupants of public buildings, prisons and jails have been slow to change. Inmates who do not smoke may be required to live with persons who do smoke without opportunities for non-smoking housing assignments. Individuals who work with inmates (correctional officers, social workers, and health care workers) are similarly subjected to environmental tobacco smoke.

Possibly due to a paucity of weapons (especially guns), homicide rates in prisons are about half the civilian homicide rate. Yet, homicide is the leading cause of premature death for youths paroled from prison and as many as 44%–67% of homicide victims have a prior criminal record or were on parole at the time of death. Despite the significant degree of violence affecting this population, few violence prevention programs exist in United States correctional facilities.

Physicians working in correctional environments must be aggressive in taking advantage of opportunities to address under-treated conditions that have effective therapies. For behavior-based public health problems such as smoking and violence, physicians can advocate for change and investigate other intervention strategies. For conditions such as hepatitis C, with evolving diagnostic and treatment recommendations, physicians should be prudent in developing policies.

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